ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
Air Quality Division
1110 West Washington Street • Phoenix, AZ 85007 • Phone: (602) 771-2338

GENERAL AIR QUALITY CONTROL PERMIT

for

Soil Vapor Extraction Units (SVEU)

(As required by Title 49, Chapter 3, Article 2, Section 49-426, Arizona Revised Statutes)

This air quality control permit does not relieve applicant of responsibility for meeting all air pollution regulations

THIS GENERAL PERMIT ISSUED SUBJECT TO THE FOLLOWING **Conditions contained in Attachments "A", "B", "C", "D", and "E"**

ADEQ GENERAL PERMIT NUMBER **102** PERMIT CLASS **II** EXPIRATION DATE **April 11, 2011**

PERMIT ISSUED THIS **11th** DAY OF **April, 2006**

Nancy C. Wrona, Director, Air Quality Division
SIGNATURE TITLE

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ATTACHMENT "A": GENERAL CONDITIONS

GENERAL AIR QUALITY PERMIT FOR SOIL VAPOR EXTRACTION UNITS (SVEU)

I. PERMIT EXPIRATION AND RENEWAL

[A.R.S. § 49-426.F; A.A.C. R18-2-304.C.2; A.A.C. R18-2-306.A.1]

A. This permit is valid for a period of five years from the date of issuance.

B. The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months, prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS

[A.A.C. R18-2-306.A.8.a; A.A.C. R18-2-306.A.8.b]

A. The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona air quality statutes and air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.

B. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE

[A.A.C. R18-2-306.A.8.c; -321.A.1.c; -321.A.1.d; -321.A.2, -510]

A. The Director may reopen and reissue, or terminate this General Permit at any time if:

1. The Director has determined that the emissions from the sources in the facility class cause or contribute to ambient air quality standards violations which are not adequately addressed by the requirements in this General Permit, or

2. The Director has determined that the terms and conditions of this General Permit no longer meet the requirements of A.R.S. §49-426 and 427.

3. The Director or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

4. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.

B. The Director shall provide written notice to all sources operating under this General Permit prior to reissuance or termination of this General Permit. Such notice shall include an explanation of the basis for the proposed action. Within 180 days of receipt of the notice of the expiration, termination or cancellation of this General Permit, sources notified shall submit an application to the Director for the appropriate permit.

C. The Director may require a source authorized to operate (ATO) under this General Permit to apply for and obtain an individual source permit at any time if:

1. The source is not in compliance with the terms and conditions of this General Permit;

2. The Director has determined that the emissions from the source or facility class are significant contributors to ambient air quality standard violations which are not adequately addressed by the requirements in this General Permit.

3. The Director has information which indicates that the effects on human health and the environment from the sources covered under this General Permit are unacceptable;

4. The Director has reasonable cause to believe that the ATO was obtained by fraud or misrepresentation; or

5. The person applying for an ATO failed to disclose a material fact required by the permit application or the regulations applicable to the ATO of which the applicant had or should have had knowledge at the time the application was submitted.

D. If the Director revokes a source's authority to operate under this General Permit, the Director shall notify the Permittee by certified mail, return receipt requested. The notice shall include a statement detailing the grounds for the revocation of authority and a statement that the Permittee is entitled to a hearing. A source previously authorized to operate under this General Permit may operate under the terms of this General Permit until the earlier of the date it submits a complete application for an individual permit, at which time it may operate under that application, or 180 days after receipt of the notice of revocation of authority to operate under this General Permit.

IV. POSTING OF PERMIT

[A.A.C. R18-2-315]

A. The Permittee shall post this permit or a certificate of permit issuance where the facility is located in such a manner as to be clearly visible and accessible. All

equipment covered by this permit shall be clearly marked with one of the following:

1. Current permit number; or

2. Serial number or other equipment ID number that is also listed in the permit to identify that piece of equipment.

B. A copy of the complete permit shall be kept on site.

V. FEE PAYMENT

[A.A.C. R18-2-306.A.9; A.A.C. R18-2-326]

The Permittee shall pay fees to the Director pursuant to A.R.S. § 49-426(E) and A.A.C. R18-2-326.

VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE

[A.A.C. R18-2-327.A; A.A.C. R18-2-327.B]

A. The Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by ***March 31*** or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year.

B. The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VII. COMPLIANCE CERTIFICATION

[A.A.C. R18-2-309.2.a; A.A.C. R18-2-309.2.c; A.A.C. R18-2-309.2.d; A.A.C. R18-2-309.5.d]

A. The Permittee shall submit a compliance certification to the Director semiannually, which describes the compliance status of the source with respect to each permit condition. The certification shall be submitted no later than January 31st and July 31st. One semiannual compliance certification shall be submitted no later than January 31st, and shall report the compliance status of the source during the period between July 1st and December 31st of the previous year. The other semiannual compliance certification shall be submitted no later than July 31st, and shall report the compliance status of the source during the period between January 1st and June 30th of the current year.

The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;

2. The Identification of the methods or other means used by the Permittee for determining the compliance status with each term and condition during the certification period;

3. The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent, based on the methods or means designated in Condition VII.A.2 above. The certifications shall identify each deviation and take it into account for consideration in the compliance certification;

4. All instances of deviations from permit requirements reported pursuant to Condition XII.B of this Attachment; and

5. Other facts the Director may require determining the compliance status of the source.

B. A progress report on all outstanding compliance schedules shall be submitted every six months beginning with six months after permit issuance.

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

[A.A.C. R18-2-304.H]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IX. INSPECTION AND ENTRY

[A.A.C. R18-2-309.4]

Upon presentation of proper credentials, the Permittee shall allow the Director or the authorized representative of the Director to:

A. Enter upon the Permittee's premises where a source is located, emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;

B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;

C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;

D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and

E. Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

[A.A.C. R18-2-304.C]

If this source becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

XI. ACCIDENTAL RELEASE PROGRAM

[40 CFR Part 68]

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the time line specified in 40 CFR Part 68.

XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

A. Excess Emissions Reporting

[A.A.C. R18-2-310.01]

1. Excess emissions shall be reported as follows:

    a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:

        i. Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from Condition XII.A.1.b below.

        ii. Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XII.A.1.a.i above.

    b. The report shall contain the following information:

        i. Identity of each stack or other emission point where the excess emissions occurred;

        ii. Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;

        iii. Date, time and duration, or expected duration, of the excess emissions;

iv. Identity of the equipment from which the excess emissions emanated;

v. Nature and cause of such emissions;

vi. If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions; and

vii. Steps taken to limit the excess emissions. If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.

2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition XII.A.1 above.

B. Permit Deviations Reporting

[A.A.C. R18-2-306.A.5.b]

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to an emergency or within two working days of the time when the owner or operator first learned of the occurrence of a deviation from a permit requirement.

C. Emergency Provision

[A.A.C. R18-2-306.E]

1. An “emergency” means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, that require immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if Condition XII.C.3 below is met.

3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;

   b. The permitted facility was being properly operated at the time;

   c. During the period of the emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and

   d. The Permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

D. Compliance Schedule

[A.R.S. § 49-426.I.5]

For any excess emission or permit deviation that cannot be corrected with 72 hours, the Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated.

E. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown

[A.A.C. R18-2-310]

1. Applicability

This rule establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

a. Promulgated pursuant to Sections 111 or 112 of the Act;

b. Promulgated pursuant to Titles IV or VI of the Clean Air Act;

c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. EPA;

d. Contained in A.A.C. R18-2-715.F; or

e. Included in a permit to meet the requirements of A.A.C. R18-2-406.A.5.

2. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. When emissions in excess of an applicable emission limitation are due to a malfunction, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the Permittee;

b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the Permittee satisfactorily demonstrated that the measures were impracticable;

d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

g. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

h. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;

i. All emissions monitoring systems were kept in operation if at all practicable; and

j. The Permittee's actions in response to the excess emissions were documented by contemporaneous records.

3. Affirmative Defense for Startup and Shutdown

a. Except as provided in Condition XII.E.3.b below, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. When emissions in excess of an applicable emission limitation are due to startup and shutdown, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

i. The excess emissions could not have been prevented through careful and prudent planning and design;

ii. If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;

iii. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

iv. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

v. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

vi. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

vii. All emissions monitoring systems were kept in operation if at all practicable; and

viii. Contemporaneous records documented the Permittee's actions in response to the excess emissions.

b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to Condition XII.E.2 above.

4. Affirmative Defense for Malfunctions During Scheduled Maintenance.

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XII.E.2 above.

5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under Condition XII.E.2 above or XII.E.3 above, the Permittee shall demonstrate, through submission of the data and information required by Condition XII.E above and A.A.C. R18-2-310.01, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

XIII. RECORD KEEPING REQUIREMENTS

[A.A.C. R18-2-306.A.4]

A. The Permittee shall keep records of all required monitoring information including, but not limited to, the following:

1. The date, place as defined in the permit, and time of sampling or measurements;

2. The date(s) analyses were performed;

3. The name of the company or entity that performed the analyses;

4. A description of the analytical techniques or methods used;

5. The results of such analyses; and

6. The operating conditions as existing at the time of sampling or measurement.

B. The Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

C. All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

XIV. REPORTING REQUIREMENTS

[A.A.C. R18-2-306.A.5.a]

The Permittee shall submit the following reports:

A. Compliance certifications in accordance with Section VII of Attachment "A".

B. Excess emissions, permit deviations, and emergency reports in accordance with Section XII of Attachment "A".

C. Other reports required by any condition of Attachment "B".

XV. DUTY TO PROVIDE INFORMATION

[A.A.C. R18-2-304.G; A.A.C. R18-2-306.A.8.e]

A. The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.

B. If the Permittee has failed to submit any relevant facts or has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

XVI. PERMIT AMENDMENT OR REVISION

[A.A.C. R18-2-317.01; A.A.C. R18-2-318; A.A.C. R18-2-319; A.A.C. R18-2-320]

A. The Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under Section XVII, as follows:

1. Facility Changes that Require a Permit Revision - Class II (A.A.C. R18-2-317.01);

2. Administrative Permit Amendment (A.A.C. R18-2-318);

3. Minor Permit Revision (A.A.C. R18-2-319); and

4. Significant Permit Revision (A.A.C. R18-2-320)

B. The applicability and requirements for such action are defined in the above referenced regulations.

XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION

[A.A.C. R18-2-306.A.4; A.A.C. R18-2-317.02]

A. Except for a physical change or change in the method of operation at a Class II source requiring a permit revision under A.A.C. R18-2-317.01, or a change subject to logging or notice requirements in Conditions XVII.B and XVII.C below, a change at a Class II source shall not be subject to revision, notice, or logging requirements under this Section.

B. Except as otherwise provided in the conditions applicable to an emissions cap created under A.A.C. R18-2-306.02, the following changes may be made if the source keeps on site records of the changes according to Appendix 3 of the Arizona Administrative Code:

1. Implementing an alternative operating scenario, including raw materials changes;

2. Changing process equipment, operating procedures, or making any other physical change if the permit requires the change to be logged;

3. Engaging in any new insignificant activity listed in A.A.C. R18-2-101.57.a through A.A.C. R18-2-101.57.i but not listed in the permit;

4. Replacing an item of air pollution control equipment listed in the permit with an identical (same model, different serial number) item. The Director may require verification of efficiency of the new equipment by performance tests; and

5. A change that results in a decrease in actual emissions if the source wants to claim credit for the decrease in determining whether the source has a net emissions increase for any purpose. The logged information shall include a description of the change that will produce the decrease in actual emissions. A decrease that has not been logged is creditable only if the decrease is quantifiable, enforceable, and otherwise qualifies as a creditable decrease.

C. Except as provided in the conditions applicable to an emissions cap created under A.A.C. R18-2-306.02, the following changes may be made if the source provides written notice to the Department in advance of the change as provided below:

1. Replacing an item of air pollution control equipment listed in the permit with one that is not identical but that is substantially similar and has the same or better pollutant removal efficiency: 7 days. The Director may require verification of efficiency of the new equipment by performance tests;

2. A physical change or change in the method of operation that increases actual emissions more than 10% of the major source threshold for any conventional pollutant but does not require a permit revision: 7 days;

3. Replacing an item of air pollution control equipment listed in the permit with one that is not substantially similar but that has the same or better efficiency: 30 days. The Director may require verification of efficiency of the new equipment by performance tests;

4. A change that would trigger an applicable requirement that already exists in the permit: 30 days unless otherwise required by the applicable requirement;

5. A change that amounts to reconstruction of the source or an affected facility: 7 days. For the purposes of this subsection, reconstruction of a source or an affected facility shall be presumed if the fixed capital cost of the new components exceeds 50% of the fixed capital cost of a comparable entirely new source or affected facility and the changes to the components have occurred over the 12 consecutive months beginning with commencement of construction; and

6. A change that will result in the emissions of a new regulated air pollutant above an applicable regulatory threshold but that does not trigger a new applicable requirement for that source category: 30 days. For purposes of this requirement, an applicable regulatory threshold for a conventional air pollutant shall be 10% of the applicable major source threshold for that pollutant.

D. For each change under Condition XVII.C above, the written notice shall be by certified mail or hand delivery and shall be received by the Director the minimum amount of time in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided with less than required notice, but must be provided as far in advance of the change, or if advance notification is not practicable, as soon after the change as possible. The written notice shall include:

1. When the proposed change will occur;

2. A description of the change;

3. Any change in emissions of regulated air pollutants; and

4. Any permit term or condition that is no longer applicable as a result of the change.

E. A source may implement any change in Condition XVII.C above without the required notice by applying for a minor permit revision under A.A.C. R18-2-319 and complying with subsection A.A.C. R18-2-319.D.2 and A.A.C. R18-2-319.G.

F. The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section, other than implementation of an alternate operating scenario under Condition XVII.B.1 above.

G. Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the same source under this Section over the term of the permit, constitutes a change under subsection A.A.C. R18-2-317.01.A.

H. If a source change is described under both Conditions XVII.B and XVII.C above, the source shall comply with Condition XVII.C above. If a source change is described under both Condition XVII.C above and A.A.C. R18-2-317.01.B, the source shall comply with A.A.C. R18-2-317.01.B.

I. A copy of all logs required under Condition XVII.B above shall be filed with the Director within 30 days after each anniversary of the permit issuance date. If no changes were made at the source requiring logging, a statement to that effect shall be filed instead.

J. Logging Requirements

[A.A.C. R18-2-306.A.4]

1. Each log entry required by a change under Condition XVII.B above shall include at least the following information:

   a. A description of the change, including:

      i. A description of any process change;

      ii. A description of any equipment change, including both old and new equipment descriptions, model numbers, and serial numbers, or any other unique equipment ID number;

      iii. A description of any process material change;

   b. The date and time that the change occurred;

c. The provision of A.A.C. R18-2-317.02.B that authorizes the change to be made with logging;

d. The date the entry was made and the first and last name of the person making the entry.

2. Logs shall be kept for 5 years from the date created. Logging shall be performed in indelible ink in a bound log book with sequentially number pages, or in any other form, including electronic format, approved by the Director.

XVIII. TESTING REQUIREMENTS

[A.A.C. R18-2-312]

A. Requirement

The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.

B. Operational Conditions During Testing

Tests shall be conducted during operation at the maximum possible capacity of each unit under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during periods of start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative operational conditions unless otherwise specified in the applicable standard.

C. Methods and Procedures

Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.

D. Test Plan

At least 14 calendar days prior to performing a test, the Permittee shall submit a test plan to the Director in accordance with A.A.C. R18-2-312.B and the Arizona Testing Manual. This test plan must include the following:

1. Test duration;

2. Test location(s);

3. Test method(s); and

4. Source operation and other parameters that may affect test results.

E. Stack Sampling Facilities

The Permittee shall provide, or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;

2. Safe sampling platform(s);

3. Safe access to sampling platform(s); and

4. Utilities for sampling and testing equipment.

F. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

G. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XIX. PROPERTY RIGHTS

[A.A.C. R18-2-306.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XX. SEVERABILITY CLAUSE

[A.A.C. R18-2-306.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

XXI. PERMIT SHIELD

[A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements identified in the portions of this permit subtitled "Permit Shield". The permit shield shall not apply to any minor revisions pursuant to Condition XVI.A.3 above and any facility changes without a permit revision pursuant to Condition XVII above.

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ATTACHMENT "B": SPECIFIC CONDITIONS

GENERAL AIR QUALITY PERMIT FOR SOIL VAPOR EXTRACTION UNITS (SVEU)

I. RELATIONSHIP OF PERMIT TO APPLICABLE STATE IMPLEMENTATION PLAN

[A.R.S § 49-404.c and -426]

This permit is issued pursuant to the provisions of the Arizona Revised Statutes (A.R.S) and constitutes an Installation Permit for the purpose of the applicable State Implementation Plan.

II. FACILITY WIDE LIMITATIONS

A. Operating Limitations

1. For the purposes of these Permit Conditions, the Soil Vapor Extraction Unit (SVEU) shall be defined as both the vapor extraction device and associated control device (thermal oxidizer, catalytic oxidizer, or carbon adsorption).

[A.A.C. R18-2-306.A.2]

2. The Permittee shall display the name, address, and phone number of a current contact person at the site of the SVEU in a manner that is clearly visible and accessible.

[A.A.C. R18-2-306.A.2]

3. The Permittee shall operate and maintain the equipment identified in the Authorization to Operate (ATO) in accordance with manufacturer's specifications.

[A.A.C. R18-2-306.A.2]

4. Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the Permittee thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property.

[A.A.C. R18-2-730.G]

5. The Permittee shall not emit gaseous or odorous material from equipment, operations or premises under their control in such quantities or concentrations as to cause air pollution.

[A.A.C. R18-2-730.D]

6. The stack height for the SVEU shall not be less than 13 feet from ground level.

[A.A.C. R18-2-306.A.2]

7. The Permittee shall not directly discharge Volatile Organic Compounds (VOCs) into the atmosphere at any time without passing through the operating air pollution control device identified in the ATO.

[A.A.C. R18-2-306.A.2]

8. Upon project completion, all vapor extraction wells shall be secured with locking caps to prevent access.

[A.A.C. R18-2-306.A.2]

9. The Permittee shall use only natural gas, propane, or electric power to operate the SVEU.

[A.A.C. R18-2-306.01]

10. *The Permittee shall not remediate any gas stream entering the SVEU control device with a VOC concentration greater than 20,000 ppmv or the manufacturer's specifications, whichever is less.*

[A.A.C. R18-2-306.01 and R18-2-331.A.3.a]
[Material Permit Condition is indicated by underline and italics]

11. The Permittee shall not process Resources Conservation Recovery Act (RCRA) hazardous waste.

[A.A.C. R18-2-306.A.2]

B. Record Keeping Requirements

[A.A.C. R18-2-306.A.4]

1. The Permittee shall maintain copies of the manufacturer's specifications for all of the equipment identified in the ATO on site.

2. The Permittee shall retain records of all required monitoring data and support information for a minimum of five years from the date of generation in accordance with Section XIII of Attachment "A".

C. Reporting Requirements

[A.A.C. R18-2-306.A.5]

Pursuant to Attachment "A" Condition XIV, the Permittee shall submit reports of all monitoring, record keeping, and testing activities required by Attachment "B" performed during the compliance term as specified in Condition VII of Attachment "A".

D. Permit Shield

[A.A.C. R18-2-325]

Compliance with Section II shall be deemed compliance with A.A.C. R18-2-730.D and R18-2-730.G.

III. THERMAL/CATALYTIC OXIDIZER REQUIREMENTS

A. Operating Limitations

1. Thermal and Catalytic Oxidizer Operating Requirements

   a. *The Permittee shall operate the thermal or catalytic oxidizer such that it shall achieve a minimum 90% VOC destruction efficiency.* This limit is not applicable when the inlet VOCs concentration is less than or equal to 1000 ppmv.

   [A.A.C. R18-2-306.01, -306.A.2, and R18-2-331.A.3.a]
   [Material Permit Condition is indicated by underline and italics]

   b. For the purposes of these permit conditions the process temperature shall be defined as the temperature of the catalytic or thermal oxidizer incineration section of the SVEU.

   [A.A.C. R18-2-306.A.2]

   c. The Permittee shall maintain the process temperature of the thermal oxidizer to be equal to or greater than 1400°F.

   [A.A.C. R18-2-306.A.2]

   d. The Permittee shall maintain the process temperature of the catalytic oxidizer to be equal to or greater than 600°F.

   [A.A.C. R18-2-306.A.2]

   e. The Permittee shall not add dilution air to the gas stream downstream of the flow measurement device required by Condition III.A.3.b.

   [A.A.C. R18-2-306.A.2]

   f. The Permittee shall maintain the velocity of the gases exiting the SVEU to be greater than or equal to 2.3 meters per second (7.5 feet per second), based upon the actual flowrate.

   [A.A.C. R18-2-306.A.2]

2. *The Permittee shall use this SVEU system to **only** treat motor fuel contaminated sites. For the purposes of this Section the term motor fuel does not include halogenated compounds.*

   [A.A.C. R18-2-306.A.2 and R18-2-331.A.3.a]
   [Material Permit Condition is indicated by underline and italics]

3. Monitoring Requirements

   [A.A.C. R18-2-306.A.4]

   a. The Permittee shall install and maintain a temperature recording device with an accuracy of ±5 degrees Fahrenheit (°F) shall be installed and maintained to measure and continuously record the process temperature of the thermal or catalytic oxidizer.

[A.A.C. R18-2-306.A.2 and R18-2-331.A.3.c]
[Material Permit Condition is indicated by underline and italics]

b. *The Permittee shall install and maintain a flow measurement device at the stack of the thermal or catalytic oxidizer to measure and continuously record the total actual flow rate.*

[A.A.C. R18-2-306.A.2 and R18-2-331.A.3.c]
[Material Permit Condition is indicated by underline and italics]

B. Particulate Matter and Opacity

1. Emission Limitations and Standards

[A.A.C. R18-2-730.A.1.a]

a. The Permittee shall not discharge particulate matter into the atmosphere in any one hour from the thermal or catalytic oxidizer in total quantities in excess of the amount calculated by the following equation:

$$E = 4.10P^{0.67}$$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour
P = the process weight rate in tons-mass per hour

b. The opacity of any plume or effluent shall not be greater than 20 percent while located in PM_{10} non-attainment or maintenance areas, as identified in Appendix "A" and "B".

[A.A.C. R 18-2-702.B.1]

c. The opacity of any plume or effluent shall not be greater than 40 percent while operating in PM_{10} attainment or unclassified areas until April 23, 2006.

[A.A.C. R 18-2-702.B.2]

d. After April 23, 2006, the opacity of any plume or effluent shall not be greater than 20 percent while operating in PM_{10} attainment or unclassified areas, as identified in Appendix "A" and "B".

[A.A.C. R18-2-702.B.3]

e. If the presence of uncombined water is the only reason for an exceedance of any visible emissions requirement in this Article, the exceedance shall not constitute a violation of the applicable opacity limit.

[A.A.C. R18-2-702.C]

2. Permit Shield

[A.A.C. R18-2-325]

Compliance with Condition III.B.1 shall be deemed compliance with A.A.C. R18-2-702.B, -702.C, and R18-2-730.A.1.a.

C. Volatile Organic Compounds

1. Emission Limitations and Standards

a. *The Permittee shall limit the emissions of VOCs exiting the SVEU to less than 75 tons per year on a 12-month rolling total.*

[A.A.C. R18-2-306.A.2, -306.01, and R18-2-331.A.3.a]
[Material Permit Condition is indicated by underline and italics]

b. Benzene

[A.A.C. R18-2-306.A.2]

i. The Permittee shall limit the emissions of benzene exiting the SVEU to less than 0.55 pounds per hour.

ii. The Permittee shall limit the emissions of benzene exiting the SVEU to less than 67 pounds per year, on a 12 month rolling total.

2. Monitoring and Testing Requirements

[A.A.C. R18-2-306.A.3 and -306.01]

a. At each location at which the SVEU is operated, the Permittee shall take representative grab samples of the gases entering and exiting the SVEU upon startup at each new location, and then once every two weeks for the first six weeks, then monthly for the following six months, and then quarterly thereafter.

b. The Permittee shall determine from the representative grab samples the concentration of VOCs at the inlet of the SVEU and the concentration of the VOCs exiting the SVEU, and the concentration of benzene exiting the SVEU as required in Condition III.C.2.a. The Permittee shall test the samples for the presence of halogenated hydrocarbons using EPA Reference Method 8260, EPA Reference Method 8015 for gasoline range organics, and EPA Reference Method 8021 for benzene, or equivalent methods approved by the director.

c. Prior to start-up or moving to a new site, the Permittee shall conduct a complete vapor analysis including full Gasoline Range Organics (GRO) and halogenated hydrocarbons. The performance test shall be conducted and data reduced (as required by A.A.C. R18-2-312.B) in accordance with the following test method: EPA Reference Method 8260 or

equivalent method as approved by Director, shall be used to determine the concentration of halogenated compounds.

[A.A.C. R18-2-311 and -312]

3. Recordkeeping Requirements

[A.A.C. R18-2-306.A.4]

a. The Permittee shall calculate and record a 12-month rolling total of benzene emissions within 5 days after the end of each month. Appendix "A" at the end of this permit explains how to complete this calculation.

Emissions shall be calculated using the representative gas samples exiting the SVEU in accordance with the following:

i. The first sampling results shall be used to calculate emissions until the second sampling date;

ii. The second sampling results shall be used to calculate emissions that occur after the second sampling date until the third sampling date;

iii. The Permittee shall continue the methodology in III.C.3.a.i and III.C.3.a.ii until the SVEU changes location at which time the sampling sequence starts over. Benzene and VOC emissions from the previous location must still be accounted for in the 12-month rolling total.

b. The Permittee shall calculate and record a 12-month rolling total of VOC emissions in units of tons per year within 5 days after the end of each month using the methodology in III.C.3.a.i through III.C.3.a.iii above.

c. The following information shall be recorded for each grab sample, in tabular format as represented in Attachment "D":

i. Date of sampling, type of air pollution control in use, and the name of the company performing the laboratory analyses;

ii. Site elevation (ft Above Mean Sea Level - AMSL);

iii. The concentration of VOCs at the inlet of the SVEU (ppmv);

iv. The emission rate of VOCs exiting the SVEU (lb/hr);

v. The VOC destruction efficiency for the SVEU;

vi. The emission rate of benzene, C_6H_6, exiting the SVEU, (lb/hr);

vii. The actual volumetric flow rate of the gases exiting the stack;

viii. The actual velocity of gases exiting the stack (feet per second).

ix. The process temperature of the SVEU, (°F).

d. The Permittee shall record monthly, the total operating hours of the SVEU device on a 12-month rolling total.

4. Reporting Requirements

[A.A.C. R18-2-306.A.5]

a. A written report of the results of the sampling required in Section III.C.2.c above shall be submitted to the Director prior to start-up.

b. A written report of the results of all the grab samples performed during the compliance term specified in Condition VII of Attachment "A" shall be submitted to the Director in accordance with the reporting requirements in Attachment "A" Section XIV.

D. Nitrogen Oxides

1. Emission Limitations and Standards

[A.A.C. R18-2-730.A.3]

The Permittee shall not discharge nitrogen oxides into the atmosphere in a concentration greater than 500 parts per million.

2. Permit Shield

[A.A.C. R18-2-325]

Compliance with Condition III.D.1 above shall be deemed compliance with A.A.C. R18-2-730.A.3.

E. Sulfur Dioxide

[A.A.C. R18-2-730.A.2]

1. Emission Limitations and Standards

The Permittee shall not discharge sulfur dioxide into the atmosphere in a concentration greater than 600 parts per million.

2. Permit Shield

[A.A.C. R18-2-325]

Compliance with Condition III.E.1 above shall be deemed compliance with A.A.C. R18-2-730.A.2

IV. CARBON ADSORPTION REQUIREMENTS

A. Operating Limitations

1. Carbon Adsorption Operating Requirements

a. *The Permittee shall maintain a minimum of 2 granulated activated carbon (GAC) canisters arranged in series.*

[A.A.C. R18-2-306.A.2 and R18-2-331.A.3.c]
[Material Permit Condition is indicated by underline and italics]

b. The Permittee shall use the carbon adsorption unit to remove VOCs from the gases entering the SVEU only when the inlet concentration is less than the manufacturer's recommended maximum VOC concentration for the GAC canisters.

[A.A.C. R18-2-306.A.2]

c. The Permittee shall not exceed the manufacturer's recommended flowrate to each canister.

[A.A.C. R18-2-306.A.2]

d. For the purposes of these permit conditions, breakthrough shall be defined as less than a 90 percent VOC removal efficiency.

[A.A.C. R18-2-306.A.2]

e. The Permittee shall replace the carbon canisters before the calculated breakthrough time for the first stage canister is reached. The testing results required under section IV.C.2.d along with other relevant factors including the working capacity of the GAC canister shall be used to determine the time the system can operate before breakthrough occurs.

[A.A.C. R18-2-306.A.2]

f. The Permittee shall determine breakthrough by either testing or calculation. Whenever breakthrough is determined either by testing or calculation at the outlet of the first stage carbon adsorber, the soil vapor extraction and treatment system shall be immediately shut down, and the first stage adsorber removed from service. The SVEU shall not be restarted until the second stage adsorber has been relocated to the first stage adsorber position. Likewise, if there are more than 2 adsorbers, each adsorber shall be moved down one position (towards the SVEU unit), and the final stage adsorber shall be replaced with a new adsorber with fresh activated carbon.

[A.A.C. R18-2-306.A.2]

g. The Permittee shall store spent carbon removed from the system in closed containers prior to removal from the site.
[A.A.C. R18-2-306.A.2]

h. *The Permittee shall use this SVEU system to **only** treat motor fuel contaminated sites.*
[A.A.C. R18-2-306.A.2 and R18-2-331.A.3.a]
[Material Permit Condition is indicated by underline and italics]

2. Monitoring Requirements

a. *The Permittee shall install and maintain a flow meter on the inlet streams to the vapor control system to indicate the total air flow rate in actual cubic feet per minute (acfm).*
[A.A.C. R18-2-306.A.3]
[Material Permit Condition is indicated by underline and italics]

b. The Permittee shall maintain records of the serial number of each canister of activated carbon, the date each is installed, the position in the series (first, second, or third stage position, etc…), and the date removed from service.
[A.A.C. R18-2-306.A.3]

B. Particulate Matter and Opacity

1. Emission Limitations/Standards
[A.A.C. R18-2-730.A.1.a]

a. The Permittee shall not discharge particulate matter into the atmosphere in any one hour from the carbon adsorption unit in total quantities in excess of the amount calculated by the following equation:

$$E = 4.10P^{0.67}$$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour
P = the process weight rate in tons-mass per hour

b. The opacity of any plume or effluent shall not be greater than 20 percent while located in PM_{10} non-attainment or maintenance areas, as identified in Appendix "A" and "B".
[A.A.C. R 18-2-702.B.1]

c. The opacity of any plume or effluent shall not be greater than 40 percent while operating in PM_{10} attainment or unclassified areas until April 23, 2006.

[A.A.C. R 18-2-702.B.2]

d. After April 23, 2006 the opacity of any plume or effluent shall not be greater than 20 percent while operating in PM_{10} attainment or unclassified areas, as identified in Appendix "A" and "B".

[A.A.C. R18-2-702.B.3]

2. Permit Shield

[A.A.C. R18-2-325]

Compliance with Condition IV.B shall be deemed compliance with A.A.C. R-182-702.B and R18-2-730.A.1.a.

C. Volatile Organic Compounds

1. Emission Limitations and Standards

a. *The Permittee shall limit the emissions of VOCs exiting the SVEU to less than 75 tons per year on a 12-month rolling total.*

[A.A.C. R18-2-306.A.2, -306.01, and R18-2-331.A.3.a]
[Material Permit Condition is indicated by underline and italics]

b. Benzene

[A.A.C. R18-2-306.A.2]

i. The Permittee shall limit the emissions of benzene exiting the SVEU to less than 0.55 pounds per hour.

ii. The Permittee shall limit the emissions of benzene exiting the SVEU to less than 67 pounds per year, on a 12 month rolling total.

2. Monitoring and Testing Requirements

[A.A.C. R18-2-306.A.4 and -306.01]

a. At each location at which the SVEU is operated, the Permittee shall take representative grab samples of the gases entering and exiting the SVEU upon startup at each new location, and then once every two weeks for the first six weeks, then monthly for the following six months, and then quarterly thereafter.

b. The Permittee shall determine from the representative grab samples the concentration of VOCs at the inlet of the SVEU and the concentration of the VOCs exiting the SVEU, and the concentration of benzene exiting the SVEU as required in Condition IV.C.2.a. The Permittee shall test the samples for the presence of halogenated hydrocarbons using EPA Reference Method 8260, EPA Reference Method 8015 for gasoline range

organics, and EPA Reference Method 8021 for benzene, or equivalent methods approved by the director.

[A.A.C. R18-2-311 and -312]

c. Prior to start-up or moving to a new site, the Permittee shall conduct a complete vapor analysis including full Gasoline Range Organics (GRO) and halogenated hydrocarbons. The performance test shall be conducted and data reduced (as required by A.A.C. R18-2-312.B) in accordance with the following test method: EPA Reference Method 8260 or equivalent method as approved by Director, shall be used to determine the concentration of halogenated compounds.

[A.A.C. R18-2-311 and -312]

3. Recordkeeping Requirements

[A.A.C. R18-2-306.A.4]

a. The Permittee shall calculate and record a 12-month rolling total of benzene emissions within 5 days after the end of each month. Appendix "A" at the end of this permit explains how to complete this calculation.

Emissions shall be calculated using the representative gas samples exiting the SVEU in accordance with the following:

i. The first sampling results shall be used to calculate emissions until the second sampling date;

ii. The second sampling results shall be used to calculate emissions that occur after the second sampling date until the third sampling date;

iii. The Permittee shall continue the methodology in IV.C.3.a.i and IV.C.3.a.ii until the SVEU changes location at which time the sampling sequence starts over. Benzene and VOC emissions from the previous location must still be accounted for in the 12-month rolling total.

b. The Permittee shall calculate and record a 12-month rolling total of VOC emissions in units of tons per year within 5 days after the end of each month using the methodology in IV.C.3.a.i through IV.C.3.a.iii above.

c. The following information shall be recorded for each grab sample, in tabular format as represented in Attachment "D":

i. Date of sampling, type of air pollution control in use, and the name of the company performing the laboratory analyses;

ii. Site elevation (ft Above Mean Sea Level - AMSL);

iii. The concentration of VOCs at the inlet of the SVEU (ppmv);

iv. The emission rate of VOCs exiting the SVEU (lb/hr);

v. The VOC destruction efficiency for the SVEU;

vi. The emission rate of benzene, C_6H_6, exiting the SVEU, (lb/hr);

vii. The actual volumetric flow rate of the gases exiting the stack;

viii. The actual velocity of gases exiting the stack (feet per second).

ix. The process temperature of the SVEU, (°F).

d. The Permittee shall record monthly, the total operating hours of the SVEU device on a 12-month rolling total.

4. Reporting Requirements

[A.A.C. R18-2-306.A.5]

a. A written report of the results of the sampling required in Section IV.C.2.c above shall be submitted to the Director prior to start-up.

b. A written report of the results of all the grab samples performed during the compliance term specified in Condition VII of Attachment "A" shall be submitted to the Director in accordance with the reporting requirements in Attachment "A" Section XIV.

V. CONDITIONS SPECIFIC TO PORTABLE SOURCES

A. Equipment Identification

[A.A.C. R18-2-315.A.2 and -324.E]

The equipment identification number and/or serial number, utilizing not less than four-inch high characters, shall be stenciled on each permitted piece of equipment, and referenced in all correspondence with the Department.

B. Move Notice

[A.A.C. R18-2-324.D]

A portable source may be transferred from one location to another provided that the owner or operator of such equipment notifies the Director of the transfer by

certified mail at least ten (10) working days before the transfer. The location change shall be submitted to the Department and shall include the following:

1. A description of **all** permitted equipment (under the same owner or operator) which is going to be present at the site including the permit number, the manufacturer, the model number, the serial number, and equipment ID number(s) for such equipment;

2. The address and description of the present location of the equipment;

3. The address and description of the location to which the equipment is to be transferred, including the availability of all utilities, such as water, electricity, or natural gas necessary for the proper operation of all control equipment;

4. The date on which equipment is to be moved; and

5. The date on which operation of the equipment will begin at the new location.

C. Renting or Leasing Permitted Equipment

[A.A.C. R18-2-324.C]

In the case that equipment covered under this permit is rented or leased, this permit shall be provided by the owner to the renter or lessee, and the renter or lessee shall be bound by this permit's provisions. In the event a copy of the permit is not provided to the renter or lessee, both the owner and the renter or lessee shall be responsible for the operation of this equipment in compliance with the permit conditions and any violations thereof.

D. Portable Sources Operating Solely in One County

[A.A.C. R18-2-324.A and -324.B]

A portable source that will operate for the duration of its permit solely in one county that has established a local air pollution control program pursuant to A.R.S. 49-479 shall obtain a permit from that county. A portable source with a county permit, shall not operate in any other county until it receives a permit from the Arizona Department of Environmental Quality.

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ATTACHMENT "C": ADDITIONAL REQUIREMENTS FOR SOURCES OPERATING IN MARICOPA OR PIMA COUNTIES

GENERAL AIR QUALITY PERMIT FOR SOIL VAPOR EXTRACTION UNITS (SVEU)

I. REQUIREMENTS FOR SOURCES OPERATING IN MARICOPA COUNTY

The Permittee shall abide by all requirements of Attachment "B" and the following requirements while operating in Maricopa County:

The numerical section references in this portion of the permit are based on Maricopa County Air Pollution Control Rules and Regulations in effect at the time of permit issuance. In the event that these rules are revised to change the numerical references during the term of this Permit, the revised numbering system will apply to this permit.

A. Facility Wide Limitations

1. General

   a. The requirements of this chapter shall apply all sources of air contaminants operating in Maricopa County, including those sources under the jurisdiction of the Arizona Department of Environmental Quality.

   b. If more than one emission limit or emission standard is applicable to the same source, the more stringent standard or emission limit shall apply.

B. Thermal/Catalytic Oxidizer and Carbon Adsorption Requirements

1. Operating Limitations

   a. Emission Limitations

   [Maricopa County Rule 220 § 302.2]

      i. *The Permittee shall limit the emissions of VOCs to less than 135 pounds per day.*

      ii. *The Permittee shall limit the emissions of VOCs to less than 22.5 tons per year on a 12 month rolling total.*

   b. Record Keeping Requirements

      The Permittee shall maintain a log detailing the daily VOC emissions emanating from the SVEU stack. The daily emissions shall be calculated on the same frequency as the testing specified in Condition III.C.b of Attachment "B" using the most recent sampling data.

2. Odor Limiting Standard

[Maricopa County Rule 320 § 300]

No person shall emit gaseous or odorous air contaminants for equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

3. Opacity Standard

[Maricopa County Rule 300 § 301]

No person shall discharge into ambient air from any single source of emission any air contaminants, other than uncombined water, in excess of 20 percent opacity.

4. Organic Solvents and Other Organic Materials

[Maricopa County Rule 330 § 306]

No person shall store, discard, or dispose of VOC or VOC containing material in a way intended to cause or allow the evaporation of VOC to the atmosphere.

5. Permit Shield

Compliance with Section I.B shall be deemed compliance with Maricopa County Rules 320 § 300, 300 § 301, and 330 § 306.

II. REQUIREMENTS FOR SOURCES OPERATING IN PIMA COUNTY

The Permittee shall abide by all permit conditions of Attachment "B" and the following rules while operating in Pima County.

The numerical section references in this portion of the permit are based on the Pima County Code (P.C.C.). In the event that the rules are revised to change the numerical references during the term of this Permit, the revised numbering system will apply.

A. Facility Wide Limitations

1. General

a. The requirements of this chapter shall apply all sources of air contaminants operating in Pima County, including those sources under the jurisdiction of the Arizona Department of Environmental Quality.

b. If more than one emission limit or emission standard is applicable to the same source, the more stringent standard or emission limit shall apply.

B. Thermal/Catalytic Oxidizer and Carbon Adsorption Requirements

1. Operating Limitations

[P.C.C. §17.16.010, 17.16.030, and 17.16.040]

a. The Permittee of any stationary or portable source of air pollution which burns any material, except natural gas, shall keep records of the material used as fuel. The Permittee of any stationary or portable of air pollution which incinerates any material shall complete records of all materials incinerated.

b. The Permittee shall operate and maintain the Granulated Activated Carbon Cancister (GAC) pursuant to an Operations & Maintenance Plan (O & M Plan) approved by PDEQ if applicable.

2. Particulate Matter and Opacity

a. Emission Limitations/Standards

The Permittee shall not discharge into the atmosphere in any one hour from any SVEU process source in total quantities in excess of the amount calculated by the following equation:

PCC 17.16.430.A.1.a]

$E = 3.59Q^{0.62}$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the heat input in million Btu per hour.

b. Visibility Limiting Standard

[SIP Rule 343][PCC 17.16.050.D]
[Federally Enforceable Condition]

i. The Permittee shall not allow the diffusion of visible emissions including fugitive dust beyond the property boundary line within which the emissions become airborne without taking reasonably necessary and feasible precautions to control generation of airborne particulate matter. Sources may be required to cease temporarily the activity or operation which is causing or contributing to the emissions until reasonably necessary and feasible precautions are taken.

ii. Condition II.B.2.b above shall not apply when wind speeds exceed twenty-five (25) miles per hour (using the Beaufort Scale of Wind-Speed Equivalents, or as recorded by the National Weather Service). This exception does not apply if control measures have not been taken or were not commensurate with the size or scope of the emission source.

iii. This shall not apply to the generation of airborne particulate matter from undisturbed land.

ATTACHMENT "D": RECORD KEEPING TABLE

GENERAL AIR QUALITY PERMIT FOR SOIL VAPOR EXTRACTION UNITS (SVEU)

Date of Sampling	Type of Air Pollution Control in Use	Name of Company Performing Analyses	Site Elevation (ft or M. AMSL)	VOC_{INLET} Conc. (ppm_V)	VOC_{OUTLET} Emissions (lb/hr)	VOC Destruction Efficiency (%)	Benzene Outlet Emissions (lb/hr)	Stack Flow Rate (acfm)	Stack Exit Velocity (actual fps)	Process Temperature (^oF)

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APPENDIX A: EXAMPLE CALCULATIONS

GENERAL AIR QUALITY PERMIT FOR SOIL VAPOR EXTRACTION UNITS (SVEU)

The Permittee is required to calculate a rolling 12-month total of benzene and VOC emissions within 5 days after the end of each month.

Emissions shall be calculated using the representative gas samples exiting the SVEU, using the first sampling results to calculate emission until the second sampling date. Likewise, the second sampling results will be used to calculate the emissions until the third sampling date and so forth. The following example below details the required calculation:

Example 1: Calculate total Benzene emissions over a 14 month period
Assumptions:

- Initial Benzene sample prior to startup = 0.01 $\left({}^{\text{lb}}/_{\text{hr}}\right)$
- First Benzene sample after initial sample = 0.009 $\left({}^{\text{lb}}/_{\text{hr}}\right)$
- Second Benzene sample after initial sample = 0.007 $\left({}^{\text{lb}}/_{\text{hr}}\right)$
- Sample Period = 30 days for this example
- 24 hours per day operation
- Unit Conversion $\left({}^{\text{minute}}/_{\text{hr}\bullet\text{feet}^3}\right)$ = 1.56e-7 = 0.000000156

Step1: Convert ppmv to Pounds:

$$(1.56e-7)\times(\text{FlowRate})\times(\text{Concentration})\times(\text{MW})=\text{Emission Rate in Pounds per Hour}\left({}^{\text{lb}}/_{\text{hr}}\right)$$

Where: MW = molecular weight = 78.17 for Benzene and 100 for VOC\
Flow Rate is in Units of $\frac{feet^3}{\text{min}}$
Concentration is in Units of ppmv

Step 1: Calculate Benzene emissions for first month

$$\text{Benzene Total Pounds for first month }(\text{BTP1})=\left(0.01\,\tfrac{\text{lb}}{\text{hour}}\right)\times(30\text{ days})\times\left(24\,\tfrac{\text{hours}}{\text{day}}\right)=7.2\text{ Pounds Benzene}$$

Step 2: Calculate total Benzene Emission after second month:

$$\text{Benzene Total Pounds for second month }(\text{BTP2})=\left(0.009\,\tfrac{\text{lb}}{\text{hour}}\right)\times(30\text{ days})\times\left(24\,\tfrac{\text{hours}}{\text{day}}\right)=6.48\text{ Pounds Benzene}$$

$$\text{Total Benzene Emissions After Two Months }(\text{Total2})=\text{BTP1}+\text{BTP2}=7.2+6.48=13.68\text{ Pounds Benzene}$$

Step 3: Calculate total Benzene Emission after third month:

$$\text{Benzene Total Pounds for third month } (\text{BTP3}) = \left(0.007 \tfrac{\text{lb}}{\text{hour}}\right) \times (30 \text{ days}) \times \left(24 \tfrac{\text{hours}}{\text{day}}\right) = 5.04 \text{ Pounds Benzene}$$

$$\text{Total Benzene Emissions After Three Months } (\text{Total3}) = \text{BTP1} + \text{BTP2} + \text{BTP3} = 7.2 + 6.48 + 5.04 = 18.72 \text{ Pounds Benzene}$$

Step 5: Continue calculating emission for months 4 through 14 following the steps above.

$$\text{Total Benzene After 12 Months } (\text{Total12}) = \text{BTP1} + \text{BTP2} + \text{BTP3} + \text{BTP} \ldots + \text{BTP11} + \text{BTP12}$$
$$\text{Total Benzene After 13 Months } (\text{Total13}) = \text{BTP2} + \text{BTP3} + \text{BTP} \ldots + \text{BTP12} + \text{BTP13}$$
$$\text{Total Benzene After 14 Months } (\text{Total14}) = \text{BTP3} + \text{BTP} \ldots + \text{BTP13} + \text{BTP14}$$

Once the initial 12 months is reached the Total Benzene **must not exceed** 67 Pounds per Year.